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Amdt. dated 02/28/2005
Reply to Office action of 08/13/2004

REMARKS/ARGUMENTS

Applicant would like to thank the Examiner for the thorough review of the present application. Based upon the amendments and the following remarks, Applicants respectfully request reconsideration of the present application and allowance of the pending claims.

The Present Invention

The invention is a method for dynamic bandwidth management on a per subscriber basis. The dynamic nature of the process means that the user/subscriber can adjust bandwidth at any point during a network connection. In addition, the user/subscriber can independently set and adjust independently the uplink and downlink bandwidths of their network access service. Thus, the user/subscriber can efficiently manage their network access according to the specific activity on the network.

For example, a user/subscriber can select a relatively high maximum bandwidth for the downlink connection when accessing data-intensive content over the network, or a relatively low bandwidth for the downlink connection when accessing less data-intensive content over the network. The change in bandwidth service level is automatically made substantially instantaneously, and the user/subscriber begins receiving service at the new bandwidth and, in most instances, at a corresponding new billing rate. Likewise, the user/subscriber can increase or decrease the bandwidth of the uplink connection so the user/subscriber only purchases the amount of bandwidth appropriate for their network activity.

35 U.S.C. § 103 (a) Rejections

Claims 1-3, 7-11, and 13 stand rejected under 35 U.S.C. § 103 (a) as being unpatentable over United States Patent No. 5,793,978, issued to Fowler (the '978 Fowler patent) in view of United States Patent No. 5,787,483, issued to Jam et al. (the '483 Jam patent) and United States Patent No. 6,654,808, issued to Chuah (the '808 Chuah patent).

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Specifically, according to the Office Action, the '978 Fowler patent teaches the following elements of independent Claim 1:

A method for dynamic control of data transfer by a subscriber during an on-going network session (**Column 1, lines 42-56**), comprising:

receiving a data packet at a gateway device (**Figure 1, node 101, "viewed as a Gateway device"**);

identifying, at the gateway device, a subscriber associated with the data packet, (**see Figure 1, packet 104 is sent from node 101 (left) and received node 101 (right)**)

retrieving from memory a subscriber profile that includes subscriber-selected bandwidth (**Column 1, lines 53-56, operator specifies a transfer rate; Column 1, lines 46-48, broadcast queue is limited to the selected amount of communication bandwidth**);

determining if the transfer rate for data packet transmission should be adjusted based on the subscriber selected bandwidth (**Column 1, lines 49-52**); and

adjusting a transfer rate for data packet transmission based on the outcome of the determination process (**Column 1, lines 46 –48**).

Additionally, according to the Office Action the '978 Fowler patent does not disclose that the operator is a subscriber. However, the Examiner believes that the '483 Jam patent teaches a communication system having a plurality of subscribers transferring and receiving data packets (**Frame 1 and Column 5, lines 20-26**)

According to the Office Action it would have been obvious to combine the teachings to "have the operator be a subscriber because both Fowler and Jam teach data packet communication with a user sending or receiving data."

Additionally, according to the Office Action the '978 Fowler patent does not teach that the subscriber profile includes subscriber-selected bandwidth. However, the Examiner believes

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that the '808 Chuah patent teaches that a subscriber could specify a certain bandwidth the user wishes to use in a stored profile (**Column 8, lines 54-60**).

The '978 Fowler Patent Does Not Teach or Suggest the Step of Identifying, at the Gateway Device, a Subscriber Associated with the Data Packet

The '978 Fowler patent does not teach or suggest the step of "identifying, at the gateway device, a subscriber associated with the data packet". This is because the Fowler patent provides no teaching or suggestion of bandwidth management on a per subscriber or user basis.

The '978 Fowler patent teaches a method for bandwidth management based on whether the packet is a broadcast packet. If the packet is determined to be a broadcast packet, the packet may be queued for delayed transmission. This method of bandwidth management applies to all of the users or subscribers that access the network via the gateway device. As such, all of the users in the invention taught by the '978 Fowler patent would receive the same bandwidth, with limited bandwidth being applied to broadcast packets. Hence, in the teachings of the '978 Fowler patent no need exists for the node (101) to identify the subscriber/user associated with the data packet because subscriber/user is not relevant to the invention, the only pertinent aspect is whether the packet is a broadcast packet or not.

The Examiner relies Figure 1 of the '978 Fowler patent and, specifically, packet 104 being sent from node 101 (left) and received from node 101 (right) to show a teaching of identifying, at the gateway, device, a subscriber associated with the data packet. The applicant strongly believes that this reference to Figure 1 is an inadequate means of showing that the '978 Fowler patent teaches identifying the subscriber associated with the packet. In the Fowler patent node 101 (left) determines whether the packet is a broadcast packet and if it is a broadcast packet queues the packet for subsequent delivery to the nodes 101 (right). The applicant fails to appreciate how packet delivery between the nodes in the '978 Fowler patent can be equated to the step of identifying a subscriber/user associated with the data packet.

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In the present invention data packets are received by the gateway device and the
subscriber's (i.e., users) identity is determined based on an identifying feature of the packet.
Once the subscriber is determined, the gateway device accesses memory that stores the
subscriber's profile. Included within the profile is subscriber-selected bandwidth, this bandwidth
is then applied to all data packets that are determined to be associated with the subscriber. A
determination is made as whether the transfer rate of the subscriber's packets needs to be
adjusted based on the subscriber-selected bandwidth. If it is determined that such adjustment is
necessary then the gateway device provides such adjustment.

For this reason, applicant respectfully submits that independent Claim 1, which has been
rejected under 35 U.S.C. § 103 (a) as being unpatentable over the cited '978 Fowler patent in
view of the '483 Jam patent and in view of the '808 Chuah patent, is thus, patentable.

In addition, the dependent Claims that depend from Claim 1, specifically Claims 3, 6-13
add further limitations to the independent claim and, as such, as a matter of law, if the
independent claim is found patentable so too should the accompanying dependent claims.

The '978 Fowler Patent Does Not Teach or Suggest the Step of Retrieving from Memory a
Subscriber Profile that includes Subscriber-Selected Bandwidth

The '978 Fowler patent does not teach or suggest the step of retrieving from memory a
subscriber profile that includes subscriber-selected bandwidth.   This is because the Fowler
patent provides no teaching or suggestion of bandwidth management on a per subscriber or user
basis. The Fowler patent makes no reference to subscriber or user profiles that include
subscriber/user-selected bandwidth, which would be stored in memory and retrieved at the
node/gateway

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The Examiner relies on reference to Column 1, lines 53-56 and Column 1, lines 46-48 to show a teaching of the step of retrieving from memory a subscriber profile that includes subscriber-selected bandwidth.   However, the Fowler patent teaches that the operator may specify the rate of delivery.   The "operator" in the Fowler patent is the unequivocally the gateway device operator or administrator and not the subscriber or user.   This is further evident by the teaching at Column 3, line 40 – Column 4, line 5, in which, the gateway device operator sets the rate of packet transmission in terms of packets per second and packet bytes second. This is type of information that is set by a network administrator, i.e., operator and, as such, these specified values apply to all of the broadcast data packets that the node 101 (left) encounters.   It does not teach or suggest management of bandwidth on a per subscriber/user basis.   The bandwidth management that the '978 Fowler patent teaches is limited to management of the bandwidth for broadcast packets versus non-broadcast packets.

In the present invention, the subscriber may select bandwidth at the onset of a network session, dynamically during an ongoing network session or the subscriber may set a static bandwidth, typically upon first-time access to the network, which remains in effect whenever the subscriber establishes a network session. As Claim 1 specifically states, the bandwidth in the subscriber's profile, which is accessed to determine transfer rate of the subscriber's data packets, is a subscriber-selected bandwidth. This limitation reflects the fact that the bandwidth is not determined by the node operator, gateway device administrator or any other network administrator.

For this reason, applicant respectfully submits that independent Claim 1, which has been rejected under 35 U.S.C. § 103 (a) as being unpatentable over the cited '978 Fowler patent in view of the '483 Jam patent and in view of the '808 Chuah patent, is thus, patentable.

In addition, the dependent Claims that depend from Claim 1, specifically Claims 3, 6-13 add further limitations to the independent claim and, as such, as a matter of law, if the independent claim is found patentable so too should the accompanying dependent claims.

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The '978 Fowler Patent Does Not Teach or Suggest the Step of Determining if the Transfer Rate
for Data Packet Transmission should be Limited based on the Subscriber Selected Bandwidth

The '978 Fowler patent does not teach or suggest the step of "determining if the transfer
rate for data packet transmission should be limited based on the subscriber selected bandwidth".
This is because the Fowler patent provides no teaching or suggestion of bandwidth management
on a per subscriber or user basis.

The Examiner relies on Column 1, lines 49-52 to show a teaching of determining if the
transfer rate for data packet transmission should be limited based on the subscriber selected
bandwidth. This passage nor any other passage in the '978 Fowler patent does not teach
determining whether transfer rate should be limited bases on a subscriber or user selected
bandwidth. The selected bandwidth that is being referred to in this passage of the '978 Fowler
patent is the threshold bandwidth for the amount of broadcast traffic that will trigger the
broadcast packets to be queued for later transmission. This threshold bandwidth is defined by
the node operator, i.e., the network administrator. The '978 Fowler patent does not teach a
method whereby users or subscribers select or choose the bandwidth they desire for all
communications being communicated from or to the user's or subscriber's network
communication device.

In the present invention, a determination process incurs once the subscriber's profile has
been retrieved to determine if the transfer rate for all data packets being transmitted should be
limited based on indicators in the subscriber's profile. If it is determined that such adjustment is
necessary based on the subscriber's profile then the gateway device provides such adjustment to
the bandwidth.

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For this reason, applicant respectfully submits that independent Claim 1, which has been rejected under 35 U.S.C. § 103 (a) as being unpatentable over the cited '978 Fowler patent in view of the '483 Jam patent and in view of the '808 Chuah patent, is thus, patentable.

In addition, the dependent Claims that depend from Claim 1, specifically Claims 3, 6-13 add further limitations to the independent claim and, as such, as a matter of law, if the independent claim is found patentable so too should the accompanying dependent claims.

The '808 Chuah Patent Does Not Teach or Suggest Adjusting the Transfer Rate for Data Packet Transmission at any Time During the On-Going Network Session Based on Adjustment of the Subscriber-Selected Bandwidth During the On-Going Network Session

The '808 Chuah patent does not teach or suggest adjusting the transfer rate for Data packet transmission at any time during the on-going network session based on adjustment of the subscriber-selected bandwidth during the on-going network session. The teaching in the '808 Chuah patent is limited to the user specifying a certain bandwidth the user wishes to use for a particular data service. No teaching is provided whereby the user may dynamically alter the bandwidth during the on-going network session by selecting an adjusted bandwidth (i.e., moving the bandwidth up or down) during the network session.

In the present invention, as dictated by amended Claim 1, the dynamic nature of the bandwidth management allows for a user to select an adjustment to the bandwidth at any moment during the on-going network session and for the bandwidth of the transmissions to be modified on-the-fly.

For this reason, applicant respectfully submits that independent Claim 1, which has been rejected under 35 U.S.C. § 103 (a) as being unpatentable over the cited '978 Fowler patent in view of the '483 Jam patent and in view of the '808 Chuah patent, is thus, patentable.

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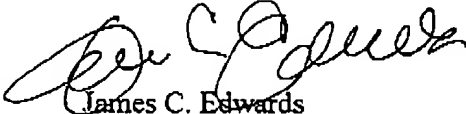Reply to Office action of 08/13/2004

In addition, the dependent Claims that depend from Claim 1, specifically Claims 3, 6-13 add further limitations to the independent claim and, as such, as a matter of law, if the independent claim is found patentable so too should the accompanying dependent claims.

Conclusion

In view of the proposed amended claims and the remarks submitted above, it is respectfully submitted that the present claims are in condition for immediate allowance. It is therefore respectfully requested that a Notice of Allowance be issued. The Examiner is encouraged to contact Applicant's undersigned attorney to resolve any remaining issues in order to expedite examination of the present invention.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,

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I hereby certify that this paper is being facsimile transmitted to the Patent and Trademark Office at Fax No. (703) 872-9306 on the date shown below.

Sarah B. Simmons   February 28, 2005
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Sarah B. Simmons   Date

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